

**Abstract of the Disclosure**

**THREE DIMENSIONAL STRESS VECTOR SENSOR ARRAY  
AND METHOD THEREFOR**

A sensor array is configured based upon capacitive sensor techniques to measure stresses at various positions in a sheet simultaneously and allow a stress map to be obtained in near real-time. The device consists of single capacitive elements applied in a one or two dimensional array to measure the distribution of stresses across a mat surface in real-time as a function of position for manufacturing and test applications. In-plane and normal stresses in rolling bodies such as tires may thus be monitored.